PATENT

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning on page 53, line 23 as follows:

If no more block operations are pending, decision **4660** branches to "no" branch **4664** whereupon another determination is made as to whether a solution to the assigned task has been reached at decision **4665**. If a solution has not yet been reached, decision **4665** branches to "no" branch **[[4664]]** **<u>4668</u>** whereupon processing loops back to step **4620** where a new set of SPU operations is determined.

Please amend the paragraph beginning on page 54, line 3 as follows:

If a solution has been reached, decision **4665** branches to "yes" branch **[[4662]]** **<u>4666</u>** whereupon, at step **4670**, the PU finalizes the processing. The PU may, for example, compute the final solution to the task by using data from all the processed data blocks. Processing ends at **4699**.

Please amend the Abstract as follows:

A method and system for solving a large system of dense linear equations using a system having a processing unit and one or more secondary processing units that can access a common memory for sharing data. A set of coefficients corresponding to a system of linear equations is received, and the coefficients, after being placed in matrix form, are divided into blocks and loaded into the common memory. Each of the processors is programmed to perform matrix operations on individual blocks to solve the linear equations. A table containing a list of the matrix operations is created in the common memory to keep track of the operations that have been performed and the operations that are still pending. SPUs determine whether tasks are pending, access the coefficients by accessing the common memory, perform the required <u>tasks</u>, and

store the result back in the common memory for the result to be accessible by the PU and the other SPUs.